

CLAIM AMENDMENTS

1 (currently amended): A method for generating a control signal after a predeterminable period of time, which comprises the steps of:

applying a voltage to an inductor using an electronic switch at a beginning of a time measurement; ~~and~~

~~outputting, via a current threshold value detector, the control signal if a current through the inductor exceeds a predeterminable threshold value~~

measuring a current rise at the inductor and a voltage drop across the electronic switch;

logically combining the current rise at the inductor and the voltage drop across the electronic switch in a logic circuit configured to generate the control signal based in part on the current rise at the inductor and the voltage drop across the electronic switch; and

outputting the control signal.

2 (original): The method according claim 1, which comprises flowing the current through a measuring resistor, and

measuring a voltage drop across the measuring resistor using a voltage threshold value detector, the voltage drop serving as a measure of the current through the inductor.

3 (original): The method according to claim 2, which comprises measuring a current rise at the inductor, and logically combining the voltage drop and the current rise in a logic circuit, and the logic circuit generates the control signal.

4 (original): The method according to claim 3, which comprises using one of the current threshold value detector, the voltage threshold value detector and the logic circuit to drive an electronic switch, the electronic switch switches off the current through the inductor.

5 (canceled).

6 (original): The method according to claim 1, which comprises using the inductor as an ignition coil of an ignition system of an internal combustion engine.

7 (original): The method according to claim 6, which comprises switching off the current through the ignition coil in an event of a short circuit on the ignition coil.

8 (original): The method according to claim 6, which comprises switching off the current through the ignition coil with regards to a differential quotient dI/dt which is chosen to be small enough that no ignition spark is generated at spark plugs connected to the ignition coil.

9 (original): The method according to claim 1, which comprises forming the control signal as a switching signal.

10 (currently amended): A timing circuit for generating a control signal after a predeterminable period of time, comprising:

an electric circuit having a voltage source with a first pole and a second pole; [[,]]

a controllable switch connected to said voltage source, said controllable switch having a field effect transistor with a collector terminal, a gate electrode, a first emitter terminal and a second emitter terminal;

an inductor connected to said controllable switch, said controllable switch configured to apply a voltage to said inductor, said inductor being a primary winding of an

ignition coil having a first terminal and a second terminal,
said first terminal being connected to said first pole; and

a current threshold value detector with a control output
connected to said inductor, said current threshold value
detector having a voltage threshold value detector for
measuring a current rise at said inductor and a voltage drop
across the electronic switch and a logic circuit for
combining the measured current rise with the measured voltage
drop;

said voltage threshold value detector having a first input
connected to the first terminal of the ignition coil, a
second input connected to the second terminal of the ignition
coil, a third input, and a control output connected to said
logic circuit.

11 (currently amended): The timing circuit according to claim
10, wherein said current threshold value detector has a
~~voltage threshold value detector with a control output and a~~
measuring resistor connected in parallel with said voltage
threshold value detector.

12 (currently amended): The timing circuit according to claim
[[11]] 10, wherein:

said controllable switch has a control input; and

~~said inductor is a primary winding of an ignition coil of an electronic ignition system of an internal combustion engine,~~
and said control output of said current threshold value detector is connected to said control input of said controllable switch.

13 (currently amended): The timing circuit according to claim [[11]] 10, wherein:

said controllable switch has a control input; and

~~said inductor is a primary winding of an ignition coil of an electronic ignition system of an internal combustion engine,~~
and said control output of said voltage threshold value detector is connected to said control input of said controllable switch.

14 (original): The timing circuit according to claim 10, wherein said controllable switch is a field-effect transistor.

15 (original): The timing circuit according to claim 14,
wherein said field-effect transistor is an insulated gate
bipolar transistor.

16 (original): The timing circuit according to claim 12,
wherein:

said voltage source has a first pole and a second pole;

said controllable switch is a field-effect transistor having
a collector terminal, a gate electrode, a first emitter
terminal and a second emitter terminal;

said current threshold value detector has a further voltage
threshold value detector with a first input, a second input,
a third input and an output;

said current threshold value detector has a logic circuit
with a first input, a second input, a first output and a
second output;

said primary winding of said ignition coil has a first
terminal connected to said first pole and to said first input
of said further voltage threshold detector, a second terminal
connected to said second input of said further voltage

threshold value detector and to said collector terminal of said field-effect transistor;

said first emitter of said field-effect transistor connected through said measuring resistor to said gate electrode of said field-effect transistor, to said first output of said logic circuit, to said third input of said further voltage threshold value detector and to said second pole of said voltage source;

said measuring resistor has a first terminal connected to said first input of said voltage threshold value detector;

said voltage threshold value detector has an output connected to said first input of the logic circuit;

said output of said further voltage threshold value detector connected to said second input of said logic circuit; and

said second output of said logic circuit connected to said gate electrode of said field-effect transistor.

17 (original): The timing circuit according to claim 16, wherein said second emitter terminal of said field-effect

transistor is connected in parallel with a series circuit of said first emitter terminal and said measuring resistor.

18 (original): The timing circuit according to claim 16, wherein said current threshold value detector has a zener diode connected between said gate electrode and said second emitter terminal of said field-effect transistor.

19 (new): The timing circuit according to claim 10, wherein said ignition coil is configured for use in an electronic ignition system of an internal combustion engine.